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ABSTRACT

This project was initiated under provisions of Title III to develop guidelines and recommendations for the development and use of videotaped field trips in guidance and career education in Ohio. The purposes of the project were to: (1) develop and field test career orientation videotapes (occutapes), (2) refine the tapes and procedures for producing such tapes, and (3) prepare guidelines and present programs to promote the use of the occutape technique within the Ohio educational community. Implementation of the project involved primarily: (1) the cooperation of a steering committee of counselors and school administrators, local business and industrial leaders, local labor unions, and school guidance counselors, and (2) feedback and evaluation of the pilot tapes by students, teachers, and course counselors after field testing, as the basis for revision of the tapes and preparation of the project report and recommended guidelines. Although not as comprehensive as originally planned, the field testing evaluation suggested that the use of locally produced videotapes in business and industry is an extremely effective technique for broadcasting student understanding of the local economic world. (AW)

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OCCUTAPES

A REPORT OF ACTIVITIES RESULTING FROM A CONTRACT BETWEEN THE DIVISION OF GUIDANCE AND TESTING, OHIO DEPARTMENT OF EDUCATION, COLUMBUS, OHIO AND THE RICHLAND COUNTY BOARD OF EDUCATION, MANSFIELD, OHIO, UNDER PROVISIONS OF THE OHIO STATE PLAN FOR ESEA TITLE III.

June, 1971

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PREFACE

This publication reports the activities and achievements resulting from a contract between the Division of Guidance and Testing, Ohio Department of Education, Columbus, Ohio, and the Richland County Board of Education, Mansfield, Ohio, initiated under the provisions of the Ohio State Plan for ESEA, Title III, Guidance, Counseling and Testing.

The project had as its purpose the use of videotape recording technology for the production of videotaped field trips in guidance and career education, and the development of guidelines and recommended procedures to help other school systems to replicate this technique. The primary objective was to provide schools with a more educationally effective and economic way of exposing students to the world of work. As a primary product of this project, these guidelines are now available to schools interested in expanding occupational exploration opportunities by the use of videotape recordings (VTR's). It is anticipated that students will benefit in terms of developing greater competency in formulating career plans and making subsequent career choices. Sample VTR's are available on short-term loan to Ohio schools interested in developing local projects.

Particular thanks for the success of the project are extended to Mr. C. Todd Strohmenger, Assistant Superintendent, Richland County Schools, for the careful, yet imaginative, work done in planning, coordinating, producing, and field testing the demonstration tapes and for authoring this publication. Through his leadership and efforts, the results of the project exceed the product anticipated in the initial proposal. Special credit is extended to Mr. David W. Winefordner, Director, Vocational Guidance, Appalachia Educational Laboratory, for conceiving the project and making the necessary contractual arrangements during the time he was serving as Assistant Director of the Division of Guidance and Testing.

John G. Odgers

John G. Odgers, Director
Division of Guidance and Testing

June, 1971

INTRODUCTION

This report describes the manner in which television recordings were developed for use in career orientation programs according to provisions of a contract between the Division of Guidance and Testing, Ohio Department of Education, and the Richland County Board of Education.

In the process of such development, extensive tours of local business and industry and intensive work with the technical problems of editing and refining the video tapes provided experiences that are worth sharing with those who are concerned about the need for relevant materials for school career guidance programs. The exciting possibilities of producing video tapes in the local school for use in other areas of the curriculum should render this report of value to more than the guidance personnel.

Although the nature of the work required that one person be actively involved, the following individuals and organizations provided the cooperation needed for whatever success may have been experienced in this project:

Dr. John G. Odgers, Director of the Division of Guidance and Testing
Mr. David Winefordner, Division of Guidance and Testing
Mr. Dale B. Kinney, Superintendent of Richland County Schools, Mansfield, Ohio
Mr. James R. Bierly, President of Mansfield Area Chamber of Commerce
Walsh Sound Equipment Company, Mansfield, Ohio, technical assistance
Fisher Body Division, General Motors Corporation, Mansfield, Ohio
Plumbing Products Division, Borg-Warner Corporation, Mansfield, Ohio
Ohio Brass Company, Mansfield, Ohio
Mansfield Brass and Aluminum Company, Mansfield, Ohio
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AN INTRODUCTION TO OCCUTAPES: LOCALLY PRODUCED VIDEOTAPES FOR CAREER DEVELOPMENT PROGRAMS

A good career development program is one which will aid students in making wise career decisions. We can define wise decisions as those which are based upon reliable facts, sound concepts of work, and a rational decision-making process. Locally produced videotapes can contribute substantially to the implementation of such a program by providing a wealth of facts and information about the world of work surrounding the student in his community. These experiences can then serve as a base upon which to build relevant concepts of work. Modern television equipment and techniques make it possible, and financially reasonable, to develop programs designed for specific students in particular places.

Videotapes for career development programs may be classified as two types: the electronic field trip and the concept development tape. This section is devoted to listing the strengths of these two types as they contribute to the implementation of a planned program. The remainder of this report describes the techniques for producing quality tapes.

Although Marshall MacLuhan alludes to some magical quality of television that grossly effects the viewer, we must insist that no videotape will do all of the teaching for us. That well-planned and well-produced tape will be of little value unless it is used in the proper setting. First, it must be a part of a planned program. Although each tape may be interesting and of some educational value, it loses much of its impact if it is used indiscriminately or in isolation. Second, each tape must be accompanied by structured discussion before and after viewing. Brief descriptions of the tapes and suggested discussion topics and activities are included in this report to guide the development of such items to adapt the tapes to local career development programs.

Electronic Field Trips. Videotapes of local business and industry can provide electronic field trips for students. Such tapes should not be designed to replace the live field trip, but they can supplement the few trips normally allowed any given class or department. Although the hands-on experiences of a live trip cannot be disputed, there are some characteristics of the electronic trip that should be considered:

1. They are less costly than live field trips. Most department budgets provide little money for such trips. $15 will buy a 20 minute videotape that can be used with many classes for many years. This is less than most field trips would cost as a one-time experience for a few children.

2. They save time. The average field trip requires approximately one-half day of teacher and student time. The electronic field trip requires only 20 to 30 minutes of viewing time. The remainder of a class session can be devoted to discussion of the common experience. Follow-up discussion of the live trip is often a day or more after the trip, thus involving more time than just the travel and tour time. Student recall is less reliable with such a time lapse, also.

3. They do not disrupt the whole school. Since most field trips require more than the single class period, the whole school is effected when a group takes a trip. The electronic trip can be shown during a regular class session.

4. They are more effective in presenting particular information to students. The live trip is dependent upon the motivation and ability of the tour guide to provide meaningful experience for students. The electronic trip can be edited and narrated to meet the needs and abilities of specific groups of students. The experience is then a known quantity toward which a teacher or counselor can lead a pre-viewing discussion. The purposes and objectives of the tape can be harmonious with the purposes and objectives of a given career development program.

5. Every child has a front row seat. Anyone who has taken a group on a field trip is aware of the logistical problems of providing every child with ideal sight and sound locations during a tour. The close-up shots of a videotape and the controlled sound gives every child the advantage of being where the action is.

6. They are free of distractions. Students see what you want them to see on a videotape. When a particular machine or process is being discussed, the viewer is a captive audience and cannot see what is going on in another location at the site. Although some may object to this feature on the grounds that incidental learning is important, the directed learning experiences possible on an electronic field trip provide a firm foundation of common experiences for all students upon which to build class discussion and follow-up activities.

7. They can be used when needed. Most live field trips must be taken at the convenience of the place to be visited. Videotapes can be used when such experience is considered timely by the teacher or counselor. Other factors such as bus scheduling, inclement weather, and school policies concerning trip frequencies do not effect the use of the electronic trips.

8. They can involve every child. If every child in a given grade level were scheduled to visit a particular industry as a part of a comprehensive career development program, that industry would probably object to such an annual burden. Our present lack of every-child career programs has allowed us to visit businesses as random teachers or schools were so inspired. As the much needed career development programs for all children are developed and implemented, the issue will be forced with the business community and we may have to turn to videotape as the major medium for broadening student experiences in the local business world.

9. They can provide otherwise impossible experiences. Some industries do not allow children to tour facilities because of safety problems. Videotapes can be made in nearly all situations. Some processes are lengthy and cannot be seen as complete wholes in a short period of time. Time lapse or distance is no problem for the electronic field trip. Few children can be taken in an airplane, through a foundry, or through a growing season in a live trip.

10. They can be repeated at will. The events of a live trip happen only once and cannot be relived. The videotape can be replayed to the class as often as needed. This characteristic is particularly valuable when discussing a complicated process or a particular aspect of the world of work. No individual can take a live tour and see and hear everything that happens, but the videotape or a portion of it may be experienced more than once.

It is also possible to stop the electronic field trip at any time for discussion or clarification. Once a live trip starts, it must be completed, even though it loses its effectiveness.

Concept development tapes. Videotapes which are based upon previously shown tapes and are designed to introduce an idea, concept or point of view may be called a concept development tape. The unique characteristic of videotape that allows it to be electronically duplicated without effecting the original opens the door for unlimited use of on-site recordings to develop tapes for specific purposes. If such tapes are designed to be a part of a planned program of electronic field trips and concept development tapes, they can claim the following advantages:

1. They use known common experiences to develop concepts. Good pedagogy requires that education be based upon the experiences of the child. The use of segments of previously shown videotapes for the development of new ideas helps the teacher or counselor to build upon known experiences of the students.

2. They can provide for re-teaching in a total program. Concepts can be reviewed or re-taught by the development of tapes with similar purpose but different material.

3. They can be directed to particular groups of students. The narrative and kind of sequences included in concept development tapes can be designed to fit the vocabulary, interest, and comprehension of any grade level or type of student.

4. They can be changed as needed. Since all tapes or portions of tapes may be erased and re-recorded, the only cost for changing or up-dating a concept development tape is the time that it takes to do it. There is no excuse for continued use of a concept development videotape that is outdated or no longer a valuable asset to a changing curriculum. The software of other media is often used beyond its useful life because we must "get our money's worth" from it. Videotapes may be recycled at no cost.

THE PURPOSE OF THIS PROJECT

This project is the result of an agreement between the Richland County Board of Education and the Division of Guidance and Testing of the Ohio State Department of Education. In return for specific work by personnel of the Richland County Schools, the Division agreed to provide funds for partial support of the project. In general terms, the Division provided moneys for purchase of portable equipment, tapes and travel; Richland County provided the personnel.

The purpose of the project may be stated as four-fold: 1) to develop career orientation videotapes, 2) to field test such tapes, 3) to refine the tapes and procedures for producing similar tapes, and 4) to prepare guidelines and present programs to share the technique with the Ohio educational community. The rationale for each of these purposes may be stated as follows:

1. Developing career orientation videotapes. The Richland County Schools had been working with television recording equipment for about two years. In exploring the uses of the new medium as an educational tool for the schools of the county, some work had been done with television tapes in local business and industry. The value of videotapes of this nature was obvious, in a subjective sort of way.

   Personnel of the Division of Guidance and Testing had discussed the possible value of television recordings in industry as a tool for career development programs, thus the contact between the Division and the County led to a mutually agreeable contract for this pilot project. The agreement provided both the county and the Division the opportunity to explore systematically the capabilities of the equipment and the soundness of the technique.

2. Field testing the tapes. Although the idea of such tapes was promising, the proof of their value had to be determined as they affected students. The long-range goals and objectives of a career development program would not lend themselves to an intensive statistical study of the effectiveness of the proposed tapes, however. The major focus of the field testing was on the immediate reaction and interest of students at different grade levels and academic backgrounds in order to identify strengths and weaknesses of the new technique. The field testing provided feedback for refining tapes and suggested additional tapes that should be attempted.

3. Refining the tapes and the procedures. It was hoped that the field testing and the reworking of the tapes would allow personnel of the project to gain valuable experience in the new technique. There was little doubt that mistakes would be made in such a new venture and that some hypotheses concerning the value of the tapes would be proven wrong. The process of trial, error, revision and success was proposed as a practical approach to the refinement of the tapes and the procedures. The end product would be a workable system of producing such tapes as well as a set of polished programs.

4. Sharing the technique with others. No manual or written report about the use of locally produced occupational orientation videotapes was known. The need for a manual and activities for sharing the experiences of the project was deemed an important purpose.

   The manner in which the project and procedures could be articulated was a

concern throughout the year. It was found that one could experience difficulty with the public, teachers and students in simply attempting to convey what you were trying to do. The fact that we were dealing with a totally new medium compounded our communications problems. Some individuals wanted to know when the "pictures" would be developed and ready to view. Others asked if sound could be added someday. We were even asked which TV channel would broadcast the programs. It is indeed a challenge to prepare a manual that will explain the program, the equipment, the procedures for recording, and the technical information necessary for those who might like to organize a similar project. To prepare a live demonstration for a conference or meeting that adequately presents the project is an equally challenging task.

THE ORGANIZATIONAL PLAN FOR THE PROJECT

It seemed logical to develop an organizational structure and an operational plan for implementing the project. Although the project personnel had experience in using the television recording equipment, only limited understanding of the concept of career development posed a problem. The following structure and plan was formulated and used as the initial approach to fulfilling the purposes of the project:

1. Development of a steering committee. It seemed wise to form a group composed of individuals who had experience and an interest in occupational guidance. Such a committee could function as a sounding board for ideas, a generator of ideas, and a passkey to the classrooms in which the field testing would be done. Guidance counselors from the junior and senior high schools, a guidance director from a large local district, the director of a vocational school, a counselor from a vocational school, and county supervisors oriented to the various grade levels were asked to serve on the committee. After an initial orientation meeting, plans were made for a monthly meeting of the group of eight.

2. Solicit the cooperation of local business and industrial leaders. It was imperative to obtain permission from the business community to enter their establishments for the purpose of making television recordings. The Mansfield Area Chamber of Commerce and the local newspaper were identified as possible channels through which the cooperation would be sought.

3. Solicit the cooperation of the local labor unions. Previous experience in arranging for a video tape to be made in an industry revealed that labor unions are wary of the use of photography and recording equipment. The concern about new time study techniques and the fear of the "big brother is watching you" aspect of television recording were identified as possible roadblocks to the implementation of the project. Contact was planned with the labor leaders of the area to discuss the idea that the project objectives could be harmonious with the interests of the labor force of the area.

4. Record and edit the videotapes. The two years of experience with the recording equipment was seen as an asset to this phase of the project. The unique nature of the specific tapes and the nebulous concept of a good career development program caused us to enter the active operation of the project with a pioneering spirit. The develop-as-you-go approach was in keeping with the experimental and developmental nature of the project.

5. Field testing the tapes. It was proposed that the field testing be done with the cooperation of the guidance counselors, particularly those who were members of the steering committee. The manner in which the tapes complimented their existing occupational guidance programs and their personal observations were anticipated as valuable feedback.

6. Refining tapes and procedures. The evaluations by the steering committee were to become the basis upon which the videotapes were to be revised and refined. Student questionnaires, teacher reports, and counselor comments would also provide important information for development of quality tapes and workable production and utilization procedures.

7. Preparation of the project report and guidelines for similar projects. The final report to the Division of Guidance and Testing would be in the form of an anecdotal record and manual that might be entitled "How Any District in Ohio Can Develop Local Career Orientation Videotapes." Eight polished tapes would be included with the report as evidence of what might be accomplished if various areas of the state would follow the lead of Richland County in the production of such tapes for their own locale.

THE REALITIES OF PROJECT IMPLEMENTATION

Although the project was far from a failure, the present hind-sight reveals that the creator of the organizational and operational plan was a little naive. In some respects, the value of the project is beyond the dreams of those who conceived it. Other anticipated benefits are yet to be proven. The greatest enemy of the project was time.

Given the proper conditions, the implementation plan for the project might have been ideal. Those who attempt a similar project might find them worth considering. The following discussion of the steps in the plan identify the problem areas encountered:

1. Development of a steering committee. The membership of this committee was well chosen except for one fact: they were all extremely busy people. It was unreasonable to expect them to attend one meeting a month on school time, arrange for videotape showings in their districts, and observe students as they viewed the tapes. The hope that the committee could help devise evaluating instruments and help articulate tape and program objectives was lost during the first meeting. Perhaps financial incentives to spend their own time on the project might have been helpful.

   An equally disappointing reality was that there were as many theories concerning career development programs as there were members of the committee. Although the group had many points of agreement concerning the generalities of career orientation, no district was guilty of having a complete program in operation. The diversity of ideas and viewpoints rendered the committee nearly useless as a "steering" group. Had there been a well-planned career development program as a point of reference, this committee could have served with distinction.

   Technical difficulties, involvement with the business and industrial leaders, and the routine assignments of the primary jobs of the project personnel did not permit long-range planning of production dates of the videotapes. Regular meetings of the committee were then impossible.

   The final problem that inhibited operation of the steering committee idea was the need for on-the-spot decisions as the preparation and use of the tapes developed. The pressure of time did not allow us to call quick meetings to determine what should be done next. Had the steering committee been allowed to function as planned, the project would still be at the beginning stages. Good or bad, the project ended up as a one-man show.

2. Solicit the cooperation of local business and industrial leaders. This phase of the project met with exceptional success. The amount of time required to develop a working relationship with the business community was not anticipated, however. Since most career development programs require close cooperation with business and industry, a detailed description of the activities in this phase of the project is included in a separate section of this report in the hope that it may serve as a guideline for career development programs in general. Although the activities listed overshadowed some of the other aspects of the project, many doors were

opened that should prove of value to our schools in the years to come.

3. Solicit the cooperation of the local labor unions. A local labor leader arranged for a presentation at the Mansfield Trade and Industrial Council, a central commission that represents all unions in the Mansfield area. After the presentation, I was dismissed with a promise of action by the group in support or opposition to the project. Nothing was ever heard from the Council. There are several possible reasons for the lack of interest.

   The presentation was made early in the life of the project and objectives and sample tapes were not ready. The presentation was premature. At the time, the support of labor was considered to be of major importance to the project. A special videotape was prepared and shown, but the nature of the questions and discussion following the presentation suggested that the purpose and plan of the project was not well articulated. The greatest value to the project encounter was the experience gained in planning presentations for those who are not familiar with the equipment or project objectives.

   The labor element of the economic community must be considered, however. We found that the management of business and industry preferred to deal with the problem. In all cases, the local union was informed of the project by management. In some industries, there was no question of union objection to any activity of this nature that was supported by management. The foreman was required only to notify the men in his department that they were going to be photographed. In other instances, union representatives stayed at our side as we proceded with recording tours. Even they lost interest in what we were doing as they began to understand the nature of the project.

   Lack of wholehearted support of the labor establishment was not a totally negative condition. Active support might have been difficult to maintain as the project became involved in industries that had various relationships with their unions. For example, one facet of a union contract under negotiations during this past year had to do with the use of television equipment in the plant. It is possible that the project might have become identified with either management or union. Such a condition could alienate the opposite faction. In final analysis, the project was able to operate independently of either union or management ties, although the need to work closely with management probably caused it to be identified with management in the sight of some union leaders.

4. Record and edit the videotapes. The time required for this phase of the project was in direct proportion to the quality of tapes desired. We experienced the phenomena that as we worked with the equipment and tapes, our standards for the finished tapes were raised. Picture quality, editing errors, and narrative weaknesses return to haunt the tape producer each time that it is shown. The result was an increasing drive to produce more perfect tapes as the project progressed. The positive aspect of this problem was that we did solve many of the technical problems and developed techniques that should allow the average audio visual person to produce good quality tapes with the help of the particular sections of this report devoted to these subjects.

The technical problem of editing caused serious delays in the schedule of the project. In some instances several days were spent in attempting various ways of improving the editing technique. The greatest asset was the purchase of a new type of recorder that was reported to eliminate most of the editing problems. Many hours of trial and error were required to determine the best use of this equipment. Although the original purposes of the project may have suffered, we learned how to use relatively inexpensive equipment to produce tapes of a quality near the standards of the professional studio and staff. Projects of a similar nature will not have to go through this developmental stage but can concentrate on actual production and field testing.

5. Field testing the tapes. The field testing activities of the project were not as comprehensive as indicated in the plan. The time required to woo the business community and to refine the editing techniques meant that some other phase of the work had to suffer. Field testing was the activity that was short-changed. There were other factors contributing to this choice, however.

   First, the lack of an operational career development program in the schools meant that use of the tapes would be random. The hope that a series of tapes could be shown to a given group of students had to be abandoned. The wide range of grade levels and types of students that did view the tapes provided sufficient feedback to allow us to identify some of the strengths and weaknesses of the tapes as a basis for improvement.

   Second, the problems encountered in editing prevented us from setting specific release dates for new tapes, thus it was most difficult to schedule the use of the tapes in advance. When a new or revised tape was ready for use, we attempted to find a suitable class or group that could view it on short notice so that we could get the feedback needed to proceed with the project. This mode of operation convinced us that the tapes must be a part of a planned program of career development if they are to be of any lasting value. Although students did enjoy and learn something from the tapes, the lack of preparation and follow-up activities did not place them in the proper context for optimum use.

   Third, the diverse views of the counselors concerning the nature of effective occupational guidance procedures forced the project personnel to formulate their own criteria for measuring the effectiveness of the tapes. Personal observations of student reaction and discussion following the tapes were most valuable in determining the success of the programs in fulfilling the purposes for which the tapes were made.

   The limited field testing did suggest that the use of locally produced videotapes in business and industry is an extremely effective technique for broadening student understanding of the local economic world. More extensive field testing must be undertaken in the proper setting in order to prove the point. Tapes must be designed with the objectives of a particular career development program in mind and evaluation must be in terms of those same objectives. Only then can we determine the true potential of such tapes.

6. Refining tapes and procedures. The bulk of the refining process took

place in the editing room. Although observations of student and teacher reaction to the tapes were a guide in altering earlier tapes, most of the improvements made were in the nature of technical corrections of the pictures and narrative.

An unanticipated help in the improvement of tapes came in the nature of suggestions from the business firms with which we worked. In their desire to put their best foot forward, many businessmen offered valuable constructive criticism for the improvement of the tapes. One firm even assigned their personnel director to the task of writing a script and narrating a tape. This source of help should not be overlooked by anyone planning a similar project because of the opportunity it provides for cementing relationships with the business community as well as the true technical assistance received.

7. Preparation of the project report and guidelines for similar projects. The present report is evidence of the success or failure of this phase of the project. Its value is to be determined as it is received and used by those who are interested. The step-by-step procedures outlined for developing a working relationship with the business community and the sections describing the technical procedures should be of value as primary efforts upon which others may build more effective and comprehensive programs.

GAINING SUPPORT OF BUSINESS AND INDUSTRY FOR THE PROJECT

Perhaps the most critical phase of any career development program that involves the business and industrial community is that of developing a working relationship with the business leaders. If you hope to enter their establishments to take sight and sound recordings of what is going on, the approach to the business community must be carefully planned and executed. The time required to assure a working relationship with industrial management was not anticipated when planning the OCCUTAPES project. Perhaps the experiences and suggestions in this phase may be a most valuable contribution to future career development programs.

The first step to be taken in any project of this nature is to inform the business and industrial leaders of the purpose and details of the project. You cannot call upon busy management personnel without some introduction or previous contact. A random call may involve the wrong individual and result in either a quick refusal of your ideas or much wasted time as you are referred to others that have the authority to review your requests. In addition, the one by one approach would be too time consuming from the project point of view. A method of reaching many people at one time must be sought.

The newspapers or other public media may be used to inform the public in general about the proposed project, but the possibility of misunderstanding and the lack of detail renders such means of reaching the management of business and industry of little value. The local chamber of commerce was selected as the starting point for the information phase of the project. The president of the chamber was contacted and an appointment was made to discuss the proposal. Upon his suggestion, a letter was drafted that outlined the purposes and details of the project. The chamber sent copies of this letter to all members under the signature of the president of the chamber. A reply card was inclosed which allowed members to indicate their interest and to name a contact person who would work with the project. From the 450 letters sent, 45 cards were received that indicated interest in cooperating. A public newspaper release was timed for publication near the mailing date so that attention of the members of the chamber would be drawn to the mailing.

The letter of information to the members of the chamber could not provide enough detail to allow some management personnel to determine what role they could play in the project. The capabilities and requirements of the television recording equipment had to be seen to be understood. To save time of both the business leaders and the project personnel, an open house program was planned at a community room in a local bank and letters of invitation were sent to the individuals who indicated an interest on the reply cards. Newspaper articles invited any interested persons to attend the event. Hours were set from 6:30 to 10:00 to allow busy executives to drop in before or after other evening engagements. Although only eight firms were represented at the open house, they were the largest and most prestigious concerns of the area. Among those attending were the recognized leaders of the industrial community. The enthusiasm of this group assured us that the project could begin operations.

The open house featured posters listing objectives, hand-outs describing the project and the guidelines for working with the participating establishments, and demonstrations of the equipment that would be used in the project. The sensitivity of the sight and sound equipment and the lack of cords and extra

lights were emphasized to reduce concern for the safety and the disturbance elements of the work to be done on-site. Coffee and cookies were provided by the project to create an informal atmosphere and encourage discussion among those who visited. It was obvious that evening that we had won the support of some important persons in the business sector of the Mansfield area.

DEVELOPING A WORKING RELATIONSHIP WITH PARTICIPATING ESTABLISHMENTS

All efforts to solicit support for a project may be in vain if the operational phase is not cognizant of the need to maintain that support and develop it into a sound working relationship. The following guidelines for operations were developed:

1. The relationship should be a two-way street. Since valuable business personnel was assigned to work with the project, the project should have something to offer in return. Although companies could consider their efforts in the project a public relations activity, we verbally expressed our appreciation for their cooperation and stated our desire to develop a two-way relationship.

2. Solicit ideas and suggestions. We found that the business leaders had a sincere concern for helping children to understand the local economic community. For many individuals it was the first time that they had been asked for opinions concerning any school program. We frequently heard the remark that "it was about time" that the schools and the community worked together to reach children. The purpose of the project of informing children about the realities of work in the area was one which the management sector of the community could support with vigor. The flattery given by a good listener did not hurt the project.

3. Consider the unique concerns of businessmen. There are some serious reservations about any pictures or materials which put the business establishment in public view. The public image of the organization and the trade and industrial process secrets are guarded carefully. Safety precautions for workers, pollution problems, and union relationships are some of the major concerns which must be accepted as project concerns if the support of business and industry is to be maintained.

   All original tapes and final productions involving an establishment were subject to the approval of someone from that firm before it was taken from the premises or released for use in the schools. Several segments of tape were destroyed or deleted from the final productions because of the unique concerns of industry. The loss of such segments was minor when compared to the value of the continued confidence of the business community.

4. Offer your services when possible. The privilege of using the business establishment and personnel was repaid in some instances for little favors that could be done by the project personnel. Few concerns had experiences with the new television equipment, thus we offered to provide showings of productions involving a facility upon request. This meant a little extra time and effort, but the offer paid dividends in positive attitudes toward the project. We furnished one plant a copy of their facility duplicated on their own tape. Extra showings included an office party program and a special viewing by an out-of-town corporate manager of an international firm.

5. Keep interested firms informed. Only a few of the 45 establishments indicating an interest could be directly involved this year. In order

to keep the doors open, special letters of information were mailed to those who had not been actively involved. Each letter restated the value of their interest and invited them to call upon the project if a particular activity warranted involvement before they were contacted by personnel of the project.

PLANNING EFFECTIVE OCCUTAPES

The only relevant question concerning the quality of an OCCUTAPE is the extent to which it is successful in helping students attain the objectives of the career development program for which it is designed. If one accepts this basic and guiding purpose for a tape, notions about some characteristics of an effective program should be helpful. The two types of OCCUTAPES, the electronic field trip and the concept development tape, are herein discussed in terms of organizational patterns that seem to work.

Electronic Field Trip. This type of tape should conform as nearly as possible to the kinds of things that students would see and hear if they were taking a live trip. The appeal of the tape should be in the new and exciting environment and activities that are being shown. Although classification and exploration of jobs, concepts of work, and principles of economics are a concern, these concepts should be incidental so that the interest in the trip is not interrupted by "teaching." These tapes are designed to provide the common experiences upon which concepts are to be developed.

1. Begin the tape with some item or activity that is known to the student. A segment showing the finished product of the factory or some service that is performed will set the stage for the whole-to part-to whole principle of teaching.

2. Provide for physical orientation of the students who view the tape by using a shot driving to the facility or one panning the outside. This will help students recall the tape each time they pass the place, thus reinforcing any learning that may be inherent in the program.

3. Select a typical operation, transaction or activity as a focus for the tape. Most establishments are too complex to allow a complete story of their operation to be told in a brief program. For example, the forming of the outer shell of an automobile door was selected as the focus for the tape of the General Motors Stamping Plant. Receiving, shipping and production departments made more sense in relationship to this specific product. This item was selected because it was a common item that all students experienced frequently, thus opportunities for recall were built into the tape.

4. Select processes or transactions that can be shown in entirety. Distance and time lapse is no problem for the electronic field trip, but not all products or services are completed in a given facility. Selection should consider the complexity of the activity to be shown to avoid a sequence that develops more confusion than understanding.

5. A smooth flow from one sequence to another can be developed with the narrative. A reference to where we are going, where we have been, or what we are going to see or have seen helps the viewer adjust to abrupt video changes. Good camera technique also helps to keep students oriented as the tour progresses. Suggestions provided in the section discussing on-site recording should be reviewed with the flow and orientation problems in mind.

6. The tape can be given cohesion by using similar shots at the beginning and ending. A review of the finished product, a reshowing of a typical process,

or a repeat of the sequence panning the outside of the facility is like a period at the end of a good sentence.

Concept development tape. Many of the same principles suggested for effective physical arrangement of the sequences in an electronic field trip may apply to the development of a concept development tape. Some additional comments are in order, however.

1. The strength of the medium lies in the ease with which one can provide visual reinforcement to the narrative. Take advantage of every opportunity to show processes, places, people, and specially prepared visuals to illustrate the idea being presented.

2. The strength of the concept development tape lies in the principle of drawing upon the common experiences of students provided in the electronic field trips which they have viewed. When actual segments of previously shown tapes are included in the concept development tape, the possibility of misunderstanding or faulty recall is reduced.

3. A particular worker or process may be used as a base upon which a major portion of the tape may be developed. As the tape returns to such person or place repeatedly, the "familiar" becomes a point from which to explore the familiar.

4. Use actual books, papers, forms and locations for subjects of visual inserts. For example, use close-up shots of the pages of the D. O. T. rather than special visuals prepared for the camera. By maintaining a flavor of reality, the consept development tape helps the student bridge the gap from the vicarious electronic experience to the live follow-up.

PROCEDURES FOR ON-SITE RECORDING AND DEVELOPING THE FINISHED TAPE

The equipment used to record and edit the programs is relatively simple to operate. The programs will not be better than the planning and purposes behind the production, however. Many mistakes were made during the course of the project development that might be avoided by those who attempt a similar project for their area. The planning and production of the tapes can be divided into five steps: 1) initial conference with the firm's contact person, 2) a pre-recording tour of the facility, 3) drafting a general plan for the recording tour, 4) the recording session, 5) building the edited tape. The following suggestions for each step are as follows:

1. Initial conference with the firm's contact person. An appointment is made with the contact man identified by the return card or by a direct call to the specific facility. During this conference, the objectives of the project are discussed along with a demonstration of the recording equipment to be used. Unique features or processes of the establishment are identified as they may contribute to the objectives of the project. This conference provides opportunities to solicit ideas, comments and suggestions from the contact man. It is not unusual for the contact man to delegate the responsibility to other personnel with the direction to return with the finished production for clearance and approval. A specific time and date are usually set for the pre-recording tour before the end of this conference.

2. The pre-recording tour of the facility. No equipment is taken on this tour. It provides an opportunity to get an overview of the facility and to meet personnel that may be of help in getting the job done. In addition, the following specific objectives are met:

   a. Identify areas, processes, or equipment that may provide pictures that will contribute to the total career development program.
   b. Identify unique concerns of the plant personnel such as industrial secrets, regulations, policies, union regulations, and pollution problems that must be considered when planning the final program.
   c. Identify possible technical problems such as lighting, noise, safety clothing you must wear, location of electrical outlets, size and distance relationships, and dust and smoke density.
   d. Learn about total processes, terminology, production flow and operational procedures that must be known to produce a meaningful finished tape.
   e. Indicate information that might be helpful in building a good tape such as number employed, wages, costs, size, production figures or machine size and weight figures. Many concerns have printed materials with such information or will collect it for you.

3. Drafting a general plan for the recording tour. This step is nothing more than taking time to reflect upon what was learned during the pre-recording tour and to develop a general idea of what might be of value in this particular facility in regards to the project. Some idea of camera angles, sequence, and the concepts that might be developed for students can be formulated. A rigid formal plan should not be created and followed, however. Many of the better sequences are the result of chance happenings during the recording tours. A general idea of the story you want

to tell will help you to see opportunities for good recordings with a "you are there" flavor that adds interest to the finished tapes.

4. The recording session. There is no substitute for practice for developing good recording techniques. There are some suggestions, however, that may lead to good recordings.

   a. Have a foreman or tour guide narrate the tape as you go through the facility. He will use terminology and explain processes that will be helpful in identifying segments and operations as the final tape is built. Use a mike cable extension and a lavalier for the narrator. The camera mike will pick up too much background noise.
   b. Record some general shots with the facility noise background without a narrative. This will allow the finished tape to include noise level segments without a distracting narrative.
   c. Instruct narrator to disconnect the microphone cable when moving from place to place and show him where to reconnect. In order to have recorder on during entire narrative, arrange for him to stand next to you and tap you on the shoulder when he starts and stops his narrative for a particular sequence. He should wait about ten seconds before narrating so that you can build a lead on the segment. It is well to continue shooting for at least ten seconds after he taps you at the end so that a tail can be built on the segment. Tell him of this fact so that he will not make comments that would be embarrassing on the lead or tail. This extra tape becomes valuable when editing the segments into a finished tape.

      The narrator should stand close enough to the camera so that the camera operator can hear what he is saying. The narrator should also give some idea of what he is going to say. These two precautions allow the camera operator to include meaningful shots and close-ups that illustrate the narration.

   d. Use a logical sequence of segments when taping if possible. This makes it easier to edit the final tape. Do not plan to use the raw tape as you make it, however, because the starting and stopping of the recorder from one segment to another causes some loss of synchronization and flop over. Although this is minimal, the editing process described later produces a much better sequence change.

      It is sometimes necessary to tape random sequences. For example, some manufacturing processes require a staggered lunch break. To save time and to maintain a good relationship with the management, tape in the order suggested by your tour guide. Editing takes care of this problem.

   e. A steady picture is an earmark of good photography. The least movement of the camera is particularly distracting when the zoom lens is on a close-up. Although the camera is equipped with a gun and trigger mechanism, it is best to remove it and attach a tripod. The legs of the tripod can be folded in for easy navigation through a location. A monopod is also available but it is a little better than the gun handle in regards to providing a steady base for the camera.

   f. Panorama-to-detail followed by close-up-to-panorama is a good sequence

for showing size and location facets of a situation being taped. The close-up is a valuable technique, but it does not show relationships of equipment, materials and operations. Imagine what a person would look at if he were visiting personally. He would not focus his eyes on the detail only. Allow the camera to simulate the eyes of the student if he were there. Put the detail in perspective.

g. Do not pan a scene when the zoom lens is set for a close-up. If you must move the focus of attention, open the lens to move and then zoom back in. Try to develop a slow and even zoom motion to avoid harsh changes on the screen. Slow changes also allow time for needed focus changes.

h. If you are in a moving vehicle or plane, use the zoom lens sparingly, in order to keep the feeling of motion and location. Close-up forward shots from a moving car gives the illusion of standing still. Close-ups out of side windows magnify the illusion of speed. If you are passing an object or building you would like to record, focus on it in the distance and stay with it as it comes to you. Of course, unusual effects may be had by deliberately violating these suggestions.

i. Think about how a shot or sequence will be used before you begin shooting. Think through the possible narrative that you will use in the final tape as you record. Such practice will help you to time the segment in the absence of a narrator and will determine when close-up and panorama shots are required.

j. If there is a question about the value of a shot or sequence, take it anyway. Be sure to get complete sequences of operations or steps in a process. Although some may be edited out, it is better to have too much than not enough. Review the sequences that you have recorded with the tour guide to be sure that you missed nothing of value to you.

k. Carry an extra battery and extra tape with you. It is often difficult to judge the time required to adequately record what you might want in an establishment. Be sure to change batteries and tape in a clean room. Dirt is the arch enemy of video recorders and tape.

l. Show someone in the facility the rough tape before you leave. This assures you that no important sequence has been forgotten. This first showing develops enthusiasm on the part of the personnel with whom you have been working. It also provides an opportunity for suggestions concerning the manner in which the final tape may be built.

5. Building the finished tape. The recording session provides a bank of raw tape with which one may build a program. The first step toward a quality finished product is to become well acquainted with the sequences and shots that you have in the raw tape to generate ideas for the final production. The following suggestions may help in this phase of the project:

a. Make notes of the sequences on the raw tape. This allows you to find particular shots that you may need when building the completed program.

b. Note the strong and weak segments and shots for reference in building the new tape. Consider sound, sight, and general quality in making judgments.

c. Note ideas that may occur during your viewing of the raw tape. Quite often approach or organization of the final tape may be suggested by particular shots or sequences as you view them.

d. Make notes concerning the sequence in which the final tape should be arranged.

e. Determine whether to use the written script approach or the picture-first approach.

The written script approach means simply that you write a script for the final tape. Care must be taken to consider the objectives of the tape, the grade level for which it is being developed, and the kind of pictures which you will use in building the program. When developing the tape, read the script while editing to determine the length of each picture sequence as it is recorded. Grammar, logic, and clarity of expressions are some of the strengths of this approach to building the final tapes.

The picture-first approach means that you edit into the tape the picture and sound sequences that you desire. As you record each new segment, you think or say about what you want on the finished tape in order to time the sequence. The narrative is then dubbed into the tape as you watch the pictures progress. The strength of this type of technique causes the narrative to have a "you are there" quality that is interesting to the listener.

A mix of these two approaches may be had by recording the narrative of a picture-first narrative on a dictaphone. The narrative can then be typed, edited and re-dubbed with polished grammar and vocabulary. The extemporaneous quality is lost with the warmed-over narrative, however.

f. Proceed to build the finished tape according to directions stated in the technical section of this manual.

TECHNICAL INFORMATION AND GLOSSARY FOR VIDEO EDIT AND SOUND DUB

This section is not a technical section in the true sense of the word. It is designed for the layman who is concerned about connecting the wires into the proper receptacles and pushing the right buttons at the right time. The individual in the local school who has time may develop a simple procedure of wire connecting and button pushing that will allow him to produce video tapes for his school that look as though they were produced by a well-qualified technician. The suggestions in this section may help him to develop these simple skills in a relatively short practice period.

The equipment upon which this discussion is based is Sony 1/2" of the new standardized generation built after March 1, 1970. Tapes produced should be compatible with any make 1/2" tape manufactured after that date. Similar equipment may be available from other manufacturers. Specific items include:

Model 3650, a recorder with features for edit, sound dub, AGC (automatic gain control) and manual choice for audio and video input. ($1000)
One standard recorder (3600) with studio camera (3200) or a portable camera and recorder ensemble (3400). ($1500)
Two monitors. The monitor for the slave unit should be at least an 18" set. This allows you to see all imperfections while building the tape. The monitor for the master may be a standardized TV set because an RF modulator will feed the antenna terminals and an expensive CCTV monitor is not required. (18" monitor, $250)
Wires and cables with approximate fittings as noted in the outlined procedures.
Microphone with lavalier.
Tapes as required.

Although most of the terms used in this section are part of most lay vocabularies, specific definitions are hereby included to clarify the meanings as they will be used:

Master - The recorder upon which the tape to be copied is played. Master may also refer to a finished tape from which other copies will be made.

Slave - The recorder upon which the duplicate tape is being built. When building a finished program, the slave draws the desired segments from the raw tapes as they are played on the master.

AGC - Automatic Gain Control is a control that can be used to compensate automatically for any fluctuations in the audio or video signal that is received in the recorder.

Manual Gain Control - This feature is a must in duplicating video tapes. It allows one to maintain an even balance of audio or video input from one segment of tape to another. The automatic gain control may compensate for a silence on a tape being duplicated and cause the narrative to begin with a blast. Manual video control allows one to improve the quality of some pictures as they are being copied by increasing or decreasing the video input to the slave.

Edit - The term is used here to indicate electronic editing by duplicating desired segments from a master tape on a slave tape to build a finished

tape. Normal editing involves the cutting of unwanted sections from a tape or film, but such process is not desirable with this type of video tape. About six inches of video tape is active in producing a single picture. The splice would have to be about six inches long and on a diagonal that corresponded to the exact location of the signal for a given frame. The electronic editing feature of the equipment does this much better than human hands. In addition, the speed and sensitivity of the video head would play havoc with any imperfect splices.

Dub - This is the procedure for placing sound on the tape after the picture has been recorded on the tape. The source of sound may be a microphone or a video or audio recorder.

Patch cord - This term applies to any wiring that is used to connect two or more pieces of electronic equipment together. It is possible to prepare cords with a combination of plugs to connect nearly any type of recorder together to transfer video and/or audio signals. Patch cords should be made by a qualified serviceman because of the variety of fittings and signals that may be involved.

Synchronization - Electronic pulses are recorded onto the edge of this type of video tape and function much in the same way that sprockets of a movie projector to keep the pictures in "frame". This allows one to see a whole picture and not a portion of two pictures or frames. These pulses must be synchronized with the electronic pictures to provide proper framing. When the pulses and pictures are not in tune, loss of "sync" occurs and the picture is not clear. When duplicating from a master to a slave it is possible to lose the sync in the transfer. The loss will cause the recorded picture to roll or to show wavy lines for a brief time. Proper use of the edit button on the slave recorder will eliminate this distracting problem.

With such common vocabulary established, the process of building a finished tape begin. There is one characteristic of video tape that should relieve any fears that may be experienced by the novice as he attempts to make new tapes. If a mistake is made in building a new tape, nothing is lost except the time taken because the electronic impulses can be erased and changed at will. As long as the record button of the master recorder is untouched, he can build as many different tapes from the originals as he desires without destroying any of the original material.

Although instructions included with the equipment are clear, a step-by-step checklist of procedures is included here for the convenience of the beginner.

CHECKLIST FOR PREPARING EQUIPMENT TO BUILD AN EDITED TAPE

1. Connect power cord to a master recorder. The master may be a 3600 standard recorder or a 3400 portable recorder or equivalent equipment. Such recorder must be of the standardized type manufactured after March 1, 1970. It must be equipped with an RF output unit.

2. Connect power cord to the slave recorder. The slave should be a 3650 recorder or equivalent manufactured after March 1, 1970.

3. Switch power on both recorders. This sounds elementary, but it has been forgotten on occasion. If the portable recorder is used, be sure to use the converter for standard outlets to save the batteries.

4. Connect a monitor to the master recorder. An RF unit must be used to connect the VHF antenna terminals on the monitor to the RF output recorder on the master. Be sure that the RF unit selector switch is on the "recorder" position rather than the "antenna" position. Any standard TV set may be used in place of a CCTV monitor since an RF modulator will feed the antenna.

5. Place master monitor selector switch to "TV". This prepares the monitor to receive the RF signal as though it were from broadcast TV.

6. Tune master monitor to proper channel. Most RF units are tuned to channel 3 or channel 4. It is well to label the unit when channel is determined.

7. Test master monitor reception with a known tape. Check the fine tuning of the monitor and the tracking and skew adjustments of the recorder to get maximum reception. Adjust the vertical, brightness and contrast of the monitor for convenience, but such adjustments will not affect the picture that will be duplicated.

8. Connect a CCTV monitor to the slave recorder. Use the standard 8 pin plugs and cable for this connection. No mistake can be made because only one such fitting is on the monitor and recorder.

9. Place slave monitor selector switch to "line" or "recorder". This is standard procedure for playing any tape on a machine. This is the only position in which the edit and sound dub feature of the recorder will work.

10. Connect master recorder to slave recorder. There are two ways in which this may be done. With a portable master recorder you must use the first approach.
    a. Attach a standard 8 pin plug and cable to the master recorder. To the open end of this cable attach a cable that separates the video and audio signals so that it can plug into the VIDEO IN and AUDIO IN receptacles on the slave recorder.
    b. Using separate video and audio cables, connect video cable to VIDEO OUT receptacle on the master recorder and the VIDEO IN receptacle on the slave recorder. Connect the audio cable to the AUDIO OUT or LINE OUT receptacle on the master recorder and to the LINE IN or AUXILIARY IN receptacle on the slave recorder.

11. Plug in slave monitor and turn it on.

12. Record a test run. The purpose of this test is to see that all connections are properly made and that the video and audio controls on the slave are set to best advantage. The beginning of the duplicated segment will have loss of sync, but that will be corrected in later steps to be outlined. Use the following procedure for this test:

    1. Prepare the master recorder to play a portion of a known tape. It should have one ready after testing the master monitor in step 7.
    2. Place a clean tape on the slave recorder and thread for normal use.
    3. Depress the record button on the slave recorder and move main switch to the PAUSE or STOP ACTION position while holding record button down, thus locking it in position.
    4. Activate master recorder by moving main switch to forward position. You should now see the same picture and hear the sound on both monitors. Allow master recorder to run while you make adjustments.
    5. Place the AUDIO and VIDEO CONTROL on the slave recorder at the MANUAL positions. This will allow you to control the audio and video input to the slave.
    6. Adjust the brightness and contrast on the slave monitor. The brightness should be moved to the brightest position then backed a little. The contrast should be moved to the maximum position then backed a little. This does not affect the picture as it will be recorded on the slave, but it paves the way for you to adjust the manual video control on the slave recorder to produce a tape that does not require maximum adjustment on playback.
    7. Adjust video signal into slave recorder using the dial indicator on the recorder and the picture on the slave monitor as guides. The picture on the well-adjusted master monitor may also serve as a reference while making these adjustments.
    8. Adjust the volume control on the slave monitor to match that of the master monitor in regards to physical position for normal operating conditions, then turn off sound of the master monitor.
    9. Adjust sound signal into the slave recorder using the dial indicator and the volume that you hear from the slave monitor as guides.
    10. Move main switch of slave recorder to forward position and record 15 to 20 seconds of tape.
    11. Stop both recorders and view the test recording. Make adjustments in video or audio as desired. Your test tape should be satisfactory.

The equipment should be properly prepared to begin building an edited tape. It is well to use a tape on the slave machine that has been bulk erased. There will be nothing on the finished tape that you have not placed on the tape and you may avoid embarrassing extraneous material when played back.

PROCEDURES FOR ELECTRONIC EDITING

When the equipment has successfully performed on a test run and the script is ready or the idea jelled, it is time to begin building the finished tape. We will assume that no still shots or other special effects are desired for the first attempt at building a tape. Ideas for such special work are included in the section of this manual so labeled.

1. Place the tape from which you wish to draw a segment on the master recorder and locate the particular portion that you wish to copy.

2. Rewind the master recorder so that about 3 seconds of tape will play through the machine before the desired section is reached. This will allow the recording head of the master to reach the proper speed before your recording begins. When this spot is determined, leave the recorder selector switch in STOP position.

3. Reset the counter on the master recorder to 000. This allows you to find the spot again in case you have to record the segment again.

4. Place a new or a cleaned tape on the slave recorder. Allow about 10 seconds of tape to play through the machine to allow for a lead in the finished tape.

5. Reset the counter to 0 on the slave recorder. This is the spot that the actual recording will begin.

6. Rewind the slave recorder until 993 is showing on the counter. Stop the recorder at this point and leave the selector switch in STOP position.

7. Rewind the master recorder until 998 shows on the counter.

8. Place the master recorder selector in forward position and stop it with the PAUSE position when the 000 spot is reached in the tape. Both recorders are now ready to begin editing. Check the following:
   a. Both monitors are on.
   b. The master recorder is on PAUSE with the counter at 000.
   c. A still picture is seen on the master monitor, but nothing is showing on the slave monitor. Do not be concerned about the quality of the picture on the master monitor. There are probably lines through it or it may be flopping over, but this is of no importance.
   d. The slave recorder is in STOP position with 993 showing on the counter.

AT THIS POINT, EVERYTHING IS IN READINESS TO DO THE ACTUAL EDITING. THE NEXT FOUR STEPS MUST TAKE PLACE IN A CAREFULLY TIMED SEQUENCE. THESE FOUR STEPS WILL DETERMINE THE QUALITY OF THE EDIT YOU ARE MAKING. READ THROUGH THESE STEPS AND DO SEVERAL "DRY RUNS" IN ORDER THAT YOU WILL DEVELOP A WORKING KNOWLEDGE OF WHAT YOU MUST DO. YOU WILL NOT HAVE TIME TO STOP AND READ WHAT TO DO NEXT!

1. Start the slave recorder by moving selector switch to FORWARD position.

2. IMMEDIATELY depress the EDIT button on the slave recorder. Keep your eye on the counter on the slave recorder.
3. WHEN THE SLAVE RECORDER COUNTER READS 998, move the master recorder switch to FORWARD position.
4. WHEN THE SLAVE RECORDER COUNTER READS 000, depress the RECORD button of the slave recorder with a firm and positive motion. The pictures on both monitors should now be the same. You are now duplicating!

When the desired segment is completed, allow 2 or 3 seconds more of recording to take place, then stop the slave recorder by moving the selector switch to STOP position. Stop the master recorder. Rewind the slave recorder to about 998 on the counter and view the recording that you have just made. You will be able to see the beginning of the inserted recording to determine the quality of the start. If there is loss of sync or other problems, now is the time to redo it before adding additional materials.

If you are satisfied with your recording to this point, you should now prepare to add additional segments to it. One or two additional steps are required. We shall include all steps to simplify the procedures.

1. Locate the spot at which you desire to insert the additional materials. Reset the counter on the slave recorder to 000 at this point.

2. Rewind the slave recorder until 993 shows on the counter. It is now ready to receive the new material. Leave selector switch in STOP position.

3. Prepare the master recorder by locating the segment to be copied, rewind until about 3 seconds of play time precedes the segment, set the counter to 000, rewind farther and stop at 000 with the PAUSE position, and you are ready to insert the new materials. Check the following:
   a. Both monitors are on.
   b. The master recorder is on PAUSE with the counter at 000.
   c. A still picture is seen on the master monitor, but nothing is showing on the slave monitor.
   d. The slave recorder is in STOP position with 993 showing on the counter.

AT THIS POINT, REVIEW THE 4 CRUCIAL EDITING STEPS AS PRESENTED AGAIN HERE BEFORE PROCEEDING WITH THEM:

1. Start the slave recorder.
2. IMMEDIATELY depress the EDIT button.
3. WHEN THE SLAVE COUNTER READS 998, start the master recorder.
4. WHEN THE SLAVE COUNTER READS 000, depress RECORD button on the slave recorder. When inserting new material, on a partially built tape, it is well to check slave monitor AND the counter for this step. Watch for word and picture clues for the point at which you start the new recording. It is well to anticipate the point and record a little before 000 shows on the counter so that a blank spot will not appear between the old and new recording. This is the crucial spot at which good editing or mediocre editing shows.

When the desired segment is completed, allow 2 or 3 seconds more of recording to take place then view what you have done. Rewind past the splice so that

you can judge the quality of the edit. ANY IMPERFECTIONS OF THE EDIT WILL REMAIN IN THE TAPE IF IGNORED AT THIS TIME, therefor, be sure that you have the quality that is desired or redo the whole segment.

As you gain competence in making edits, you will note that it is well to do the first edit as late as possible so that you will have room to redo the edit again by cutting in on the previous material a little to avoid a "double edit" at the same spot. You must anticipate the spot of the previous edit each time you redo a section. It is not uncommon to do a repeat edit in order to get a quality finished production. Word and picture clues are a great help in spotting the instant at which to start an edit.

ADDING SOUND TO THE EDITED TAPE

If all steps of the editing procedures are followed, the sound of the original tape will be duplicated. A narrative of some sort is usually desired, however, and some understanding of the sound dub techniques is valuable. The following steps are required for a sound dub from the microphone:

1. Remove the audio wire from the LINE IN or AUXILIARY IN receptacle on the slave recorder.
2. Insert the microphone cable into the MIC IN receptacle.
3. Locate the point at which the narrative is to be inserted. This can be found by playing the tape to that point and stopping it with the PAUSE position of the recorder.
4. Set the counter at 000 at that point so that you can review the insertion without hunting for it.
5. Place the microphone in position. For a narrative, it is desirable to use a lavalier. In this way, the volume will always be the same for each segment of sound added.
6. Turn the volume control on the slave monitor to OFF position. This will prevent a feedback squeal.
7. Move the recorder selection switch to FORWARD.
8. Wait 2 or 3 seconds before beginning narrative. This allows the recorder to reach normal speed. Without the wait, you may sound like Mickey Mouse at the beginning of the narrative.
9. Stop the recorder when you have completed the dub.

There is one physical problem of the recorder that effects any sound dub. The recording head and the playback head for sound are at opposite ends of the video drum. This means that there is a lag between what you hear and what you add. About 1 second of tape remains between what you heard as you stopped the recorder and the beginning of the new sound recording. The effect on playback is that the old sound fades before the new narrative begins. This is another reason for a 2 to 3 second pause before narrating.

This sound lag becomes crucial when you must redo a dub. Be sure to set the recorder for a new dub as near to the end of the preceding material as possible. In this way you will erase all of the previous dub and avoid a voice override.

SPECIAL EFFECTS AND IDEAS FOR THE MORE EXPERIENCED PRODUCER

There a re many special effects techniques that add much to the finished tape. It is suggested that each special visual be recorded on a tape and then edited into the finished tape as desired. Do not attempt to add directly from the camera to the final tape because of the snyc problem. It is often best to record several visuals on a rough tape at one time and draw from them as you build the finished tape. The camera, lights and other equipment may remain on stand-by so that as ideas present themselves during the building of the finished production, you are ready to add what is needed.

Movies, slides, overhead projections. It is quite possible to use movies, slides, and overhead projections for subjects of camera shots. This opens a whole area of possibilities for dressing up any tape. The following suggestions may be helpful in working with these camera subjects:

a. When using movies, take care of producers copywrite laws. Most commercially produced movies require payment of clearance fees for any TV recordings. Home movies or school produced movies should provide no problem.
b. Project on a matte finish surface to reduce glare. A pastel blue wall is ideal.
c. Avoid directing lens of camera at projection bulb. Serious damage can result to the videcon tube with such exposure.
d. Position camera as close to projector as possible to avoid "keystone effect" that makes good focus of camera difficult.
e. Darken the room as much as possible to get the most contrast.

Close-ups of reading materials, maps, charts, and drawings. Proper use of the zoom lens, wide-angle lens, and extensions provide opportunities to enlarge print and drawings to fill the screen. It is possible to enlarge print from books and newspapers to make them readable on the screen. The key to good shots of this nature is the proper combination of distance of the camera from the material, proper extension, and proper lens and lens settings. The following suggestions should help one to find the right combination for the shot desired:

a. All lens have a minimum distance that must be maintained from the subject material. This distance can be shortened considerably by closing the F stop to the maximum and using a floodlamp on the materials.
b. The zoom lens that comes with the equipment has openings from F2 to F16. The zoom feature is 16 to 64mm. It is possible to use the zoom with lights and get satisfactory shots of large print such as newspaper headlines or poster materials. When using the zoom, the combination of focus, zoom and F stop settings allows a variety of distance from the materials to be utilized.
c. The major problem facing the planning of a close-up is that of width of field. The number of words or letters that can be shown in a reading line is drastically reduced as the materials is enlarged. One must determine how large the print must be and still be able to include the desired number of words or letters in the field of vision.

d. A table easel should be made to hold the material being photographed. A tripod must be used to keep the camera steady. The two should be adjusted so that the material and the camera planes are parallel in order to allow focus in the entire field.
e. A single sheet of paper cannot be used because the light will pass through and reduce contrast and sharpness. Mount or tape single sheets to a backing before placing on easel.
f. If you make some of your own visuals such as credit lines, titles, or charts, it is well to use pastel blue cardboard or paper to avoid the glare caused by white background.
g. Extensions may be inserted between the camera and the zoom lens to change the focal length of the lens. This will give you a new set of close-up shots. The combination of focus, zoom and F stop settings will change with the addition of an extension to allow a closer series of shots. Paillard-Bolex extensions of 5mm or 10mm length are excellent. The 5mm would be the most useful single extension.
h. In the absence of lettering equipment for titles and credits, the close-up techniques allow one to use regular ryping for such work. An electric typewriter with a carbon ribbon provides the best subject material because of its even and sharp images.

Life-like shots of photographs and pictures. The close-up techniques provide exciting possibilities when using photographs and pictures. It is possible to pan the scenes and even "fly over" scenes that are available from old pictures, snapshots and pictures from magazines. The illusion of live camera shots must be seen to be appreciated. Here are some suggestions:

a. The zoom lens and the zoom with extensions provide good shots with the still or "panning" illusion.
b. Color photos or pictures seem to have more depth when used for close-up shots.
c. If the ordinary wide-angle lens is used for close-up, interesting "moving" shots are possible. If the subject is slowly moved toward the camera, you get the illusion that you are traveling into the picture because objects in the picture "pass by you" on either side. You can "walk" down the street or "fly over" the landscape by utilizing this characteristic of wide angle close-ups. You may even "bank your plane" by slowly turning the subject picture while moving it toward you.
d. Pictures without people or animals are the best for "walking" or "flying" shots. Panning shots with people and animals seem more realistic than still shots with such subjects.

Storing sound. It is possible to record the sound track of a video tape onto a standard audio tape. It can then be inserted when wanted into the sound track of a video tape that is being built. This idea allows one to illustrate lectures or talks by building an edited tape and feeding the sound track back onto the new tape as desired. A simple patch cord can be made to connect the video recorder and a standard audio recorder for this purpose.

Each original tape is a storehouse of sound. As each tape is built, it is wise to plan to use some of the sound from the master tape. This will add realism to the finished product. Since each edit will record both

sight and sound, utilization of original sound tracks need only careful planning when building a narrative into the finished tape.

Factory sounds, music and other background noises may be played from a standard recorder as the narration is being done for a finished tape. A special electronic mixer is available to balance background and voice for quality recording, but the cost was prohibitive for this project. Physical placement of the voice microphone and the background recording along with volume adjustments provide adequate and inexpensive mixing after a little trial and error session.

Fade-in and fade-out. Any fade-in or fade-out effects must be built into the tape as it is originally recorded. The 3650 duplicating recorder does have a video signal control, but it will not do a complete fade. The fade can be built into an original tape by using the setting of the camera aperature. As the edited tape is built, the fade is very effective.

Instantly added numbers, letters, words or charts to the picture. This is an effect that must be seen to be appreciated. A close up of a multiple digit number, word, or sentence is photographed. Without moving the camera, a word or digit is blocked out with a piece of cardboard or paper of the same color as the background or paper of the same color as the background in the subject. The camera then photographs the subject minus the blanked out item. This can be repeated with as many combinations of item omissions as desired. Be sure to record at least 20 seconds of each stage of the sequence. When the series is edited onto a finished tape, begin each insert after the loss of sync of the camera is passed. The effect will be that the numbers or letters appear as if by magic beside the ones already showing on the picture. The procedure can be reversed to make items disappear from the screen.

Turn your creativity loose. Do not be afraid to try ideas that might provide useful special effects. The only caution to remember is that the videcon tube is very sensitive to the light and should not be abused. With a little care and brain storming, many new and interesting ideas are waiting to be discovered by those who work with this new medium.

As a teaser, focus the zoom lens on the monitor in a lighted room. The series of pictures within pictures is quite interesting. If you are intrigued try changing the focus and zoom into the monitor. The electronic "trip" will give you an indication of the exciting new field with which you are experimenting.

ELECTRONIC FIELD TRIPS

General Motors Stamping Plant. This is a tour of the Stamping Plant of the General Motors Corporation, Fisher Body Division, Ontario, Ohio. The tape is focused on the stamping of the outer shell of a rear door and traces the coils of steel as they are unloaced, cut to size on a blanking press, formed in large automatic presses, asembled, and shipped from the plant. Occupations shown include crane operator, blanking press and hydraulic press operators, press room foreman, maintenance and set-up men, elecric truck operators, shipping room workers, pattern maker, tool maker and die setter. The dialog draws attention to the safety devices in the plant and the inter-dependence of the various workers shown. Interesting sequences include the operation of a fully automatic press line and the skill of an electric truck driver as he loads a railroad boxcar.

Borg-Warner Foundry. This is a tour of the cast iron foundry of the Plumbing Products Division, Borg-Warner Corporation, Mansfield, Ohio. The tape is focused on the making of cast iron bathtubs and traces the process from the melting of the iron in the furnace, the preparation of the sand molds, the pouring of the molten metal into the molds, the shake-out and finish grinding of the tubs, the application of porcelain enamel, and the crating of the completed product in the shipping room. Occupations shown include furnace charger, iron pourer, molder, general foundry help, mono-rail crane operator, grinders, spray painter, enameler, and shipping room personnel. The dialog draws attention to safety clothing of the workers and the concern for a quality product during each operation. Interesting sequences include a clear explanation of the molding process and the operation of an automatic molding machine.

Borg-Warner Ceramics Plant. This is a tour of the ceramics plant of the Plumbing Products Division, Borg-Warner Corporation, Mansfield, Ohio. The tape is focused on the making of ceramic water closets and traces the process including the raw clay, mixing the slurry, preparing and pouring the molds, hand finishing the product, applying the glaze, baking in the kiln, inspection and packing of the completed product. Occupations shown include payload tractor operator, molding line workers, hand finishers, spray painters, kiln operator, inspector, and packer. The dialog provides a good introduction to the ceramics manufacturing process. Interesting sequences include a close-up of the mixing operation and an illustration of the manner in which ceramic fixtures are assembled in the green, or damp state.

The Weather Bureau. This is a tour of the National Weather Service Office at the Mansfield Lahm Airport. Nearly all functions of a local weather forecasting station are clearly explained by the resident meteorologist. The step-by-step account of the activities and equipment of the station makes this tape suitable for use in the intermediate grades. Interesting sequences include a weather briefing for a jet pilot, the operation of a facsimile machine, and the daily use of satelite pictures.

CONCEPT DEVELOPMENT TAPES

D. O. T. #1. This tape introduces the Dictionary of Occupational Titles and deals primarily with Volume I. Extensive use of portions of the electronic field trip to the weather bureau illustrates the manner in which this volume lists job descriptions.

D. O. T. #2. This tape introduces Volume II of the Dictionary of Occupational Titles. Particular emphasis is placed on the meaning of the first three digits of the six digit number assigned to each occupation. Actual views of the category, division and group listings are used to take the viewer through a detailed discussion of this manner of classifying occupations. The use of the occupational group arrangement to discover related jobs is shown.

D. O. T. #3. The meaning of the last three digits of the six digit occupational number is the subject of this tape. The data, people, things concept is introduced through extensive on-site shots of people working. The manner in which a hierarchy of jobs is revealed with the use of the data, people, and things digits in the occupational group arrangement section of Volume II is discussed. A summary of the meaning of all six digits concludes the tape.

APPENDIX

THE MANSFIELD AREA CHAMBER of COMMERCE

MANSFIELD • OHIO 44902

October 7, 1970

Dear Member:

The Richland County Public Schools are considering a unique program for occupational orientation of students in the county schools. They propose to visit various businesses, industries and institutions of the Mansfield Area to make television recordings for use in classrooms as a part of a program to develop in students and teachers a more realistic outlook toward the world of work. Traditionally, our schools have been directed toward the academically-talented and the college bound student. The growing complexity of our society and the technological explosion now demands that we develop new attitudes and understandings about the total continuum of occupations from the highly trained and skilled to the more menial tasks that are important to a well-functioning community. It is to this end that they propose a new program.

The portable television equipment would make it possible for them to visit various kinds of jobs on the site and make tapes for use in the schools that would enrich student experiences in the occupational field. It will be possible not only to provide information and observations about various jobs, but it will be the schools intent to develop a more positive attitude toward some of the less glamourous tasks in the business world. Although there are a few 16mm films available about some occupations, the advantage of using the local setting and job market should be obvious.

Although the Richland County Schools have most of the equipment necessary to do the project, there will be expenses for additional equipment and materials for the project. They plan to submit an application for federal monies to fund the project. In addition, they are working with the State Department of Education in the hopes that financial assistance may be available from that source also. We are contacting members of the Chamber only as a matter of information to solicit cooperation in allowing them to tape programs in their establishments. It is also possible that the project would be of sufficient interest to some members that they would like to have an active part in the planning and implementation of the program. Enclosed is a card that invites you to respond to this letter.

Thank you for your kind attention.

Sincerely,

James Bierly
President

JB:ds

MEMBER OHIO CHAMBER OF COMMERCE AND CHAMBER OF COMMERCE OF THE UNITED STATES

COPY OF REPLY CARD - FOR CHAMBER LETTER

C. Todd Strohmenger
Richland County Schools
50 Park Avenue East
Mansfield, Ohio 44902

_____
Name of Firm Replying

( ) Our firm would like to cooperate in the TV tape program for occupational orientation.

( ) Our firm is interested but would need further clarification of the project.

( ) Our firm cannot participate in the project as outlined.

Name of contact person _____

_____ _____
Signature of respondent Title

LOCAL SUPERINTENDENTS

WILLIAM WILSON
Clear Fork Valley

HAROLD DAUP
Crestview Schools

DONALD SUTTER
Lexington Schools

DONALD DENNISON
Lucas Schools

PRESTON BURGGRAF
Madison Schools

JOHN FAZZINI
Plymouth Schools

D. D. RUMMEL
Springfield Schools

Richland County Public Schools

Dale B. Kinney, County Supt.

Ida Belle Walker, Office Secretary
Delores Stevick, Secretary

50 Park Avenue East Phone: 524-4004

Mansfield, Ohio 44902

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Jane Cashell, Junior High
Marvena Hershey, Elementary
Richard A. Porter, Elementary
Joan Loeffler, Elementary

June H. Brooks, Psychologist

Speech & Hearing
Elaine Shoemaker
Mary Jezierski

Martin Nagel, Attendance Officer

Thank you for your reply to the letter from the Mansfield Area Chamber of Commerce concerning the program of occupational education for the Richland County Schools utilizing television recordings of local businesses and industries. Your generous offer of cooperation has not been ignored.

Our project has been funded by the Division of Guidance and Testing, Ohio State Department of Education. We are to develop some pilot programs with television, write teacher manuals for their use, and field test them with students in our schools. For the sake of communications, we have given the name OCCUTAPES to the project.

At the present time we are working with establishments that were most anxious to become involved or that had activities that best suited the needs of the program. Now that the holidays are over, I hope to make personal contact with all firms that indicated an interest in the project in order to explore the specific role that each may play in the total program.

Some of the men found that the television equipment and recordings had possible uses in their own programs. Some tapes may be useful in your safety, public relations or training programs. We are pleased to be able to make our project a two-way street. If you feel that you would like to have us develop a television recording in your establishment in the near future, please contact me and we can give your firm priority in our schedule. Since we are concerned with developing a broad understanding of the working world, anything that involves business or industry is a suitable subject for the OCCUTAPES program.

Enclosed are two items which may help you to understand the nature of the project and the manner in which we may cooperate. I would be happy to bring the equipment and some of the recordings to your office if you would like to have a first hand look at the program as it is progressing.

Sincerely,

C. Todd Strohmenger

C. Todd Strohmenger
Administrative Assistant

CTS:ds

RICHLAND COUNTY BOARD OF EDUCATION
50 Park Avenue East
Mansfield, Ohio 44902

RELATIONSHIPS OF THE PROJECT TO PARTICIPATING ESTABLISHMENTS

1. A tour of the facility will be arranged for the project director so that he may identify areas which yould be useful for the OCCUTAPE program.

2. TV recordings and color slides will be made of the selected job sites by appointment.

3. A narrative of what is being done will be made as the TV recording progresses through the facility. It is preferred that the firm assign someone to this task. The purpose is to help viewers understand the processes being shown.

4. The original recordings and slides will be edited and additional narrative added when deemed advisable. A study guide for teachers will be prepared for use with the program.

5. The finished program will be shown to a firm representative to obtain clearance for use of the material. Cooperating firms and institutions have the right to exclude any pictures or narrative that would be detrimental to the public relations or the security of the establishment.

    5a. There will be times when brief shots of jobs in several establishments may be used in a single tape. Every effort will be made to use material already cleared and to keep cooperating firms informed of such use.

6. Any part of the original TV recordings or the edited tapes and color slides will be available for use by the establishment in which they were made. We will loan or operate any equipment needed for presentations requested by such firms. Arrangements can be made for copies of television tapes or slides that may be desired.

7. The Richland County Board of Education deeply appreciates the cooperation of those firms and institutions that are opening the doors of their establishments to the personnel of this project. We are grateful for the opportunity to work together to develop in our children a more realistic approach to the economic world.

You are invited to attend

OCCUTAPES

OPEN HOUSE

WEDNESDAY, DECEMBER 2, 1970

6:00 PM - 10:00 PM

Social Room

First National Bank

Westside Branch

Marion at Maple

The OCCUTAPE program is a project of the Richland County Board of Education in cooperation with the Division of Guidance and Testing, Ohio State Department of Education to prepare classroom lessons for occupational orientation of students. It involves the making of television recordings and slides to provide "electronic" field trips through various businesses, industries and institutions of the Mansfield Area.

LOCAL SUPERINTENDENTS

WILLIAM WILSON
Clear Fork Valley

HAROLD DAUP
Crestview Schools

DONALD SUTTER
Lexington Schools

DONALD DENNISON
Lucas Schools

PRESTON BURGGRAF
Madison Schools

JOHN FAZZINI
Plymouth Schools

D. D. RUMMEL
Springfield Schools

Richland County Public Schools

Dale B. Kinney, County Supt.

Ida Belle Walker, Office Secretary
Delores Stevick, Secretary

50 Park Avenue East Phone: 524-4004

Mansfield, Ohio 44902

November 25, 1970

RICHLAND COUNTY BOARD

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Marvena Hershey, Elementary
Richard A. Porter, Elementary
Joan Loeffler, Elementary

June H. Brooks, Psychologist

Speech & Hearing
Elaine Shoemaker
Mary Jezierski

Martin Nagel, Attendance Officer

Dear Sir:

Thank you for indicating an interest in the project of the Richland County Schools to develop a program of occupational orientation of students through the use of locally produced television recordings. We are happy to announce that the proposed project has been approved and we now have a contract with the Division of Guidance and Testing of the Ohio State Department of Education to develop and field test the technique for them. If our pilot is successful, it may set a pattern for the development of similar programs in other areas of the state. I hope that you may be part of this pioneering venture.

You are invited to attend an open house next Wednesday, December 2, 1970, at your convenience between the hours of 6:00 p.m. and 10:00 p.m., in the social room at the Marion Avenue Branch of the First National Bank. You will have an opportunity to view some video tapes and slides that are typical of the kind of programs that we plan to produce. More specific information about the relationship of the business community to the project will be available at that time. The event is open to the public so feel free to bring or send other members of your firm that may be interested in the program.

It should be possible to gain an understanding of the planned project in less than one-half hour. If you cannot attend that evening, I would be pleased to arrange an appointment with you at your convenience to show the materials to your staff and discuss how your firm may relate to the project.

Sincerely,

C. Todd Strohmenger
Administrative Assistant

CTS:ds